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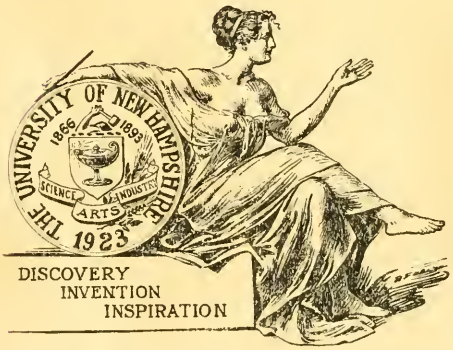

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INSPECTION OF COMMERCIAL FERTILIZERS

MADE FOR THE STATE DEPARTMENT OF AGRICULTURE.

The inspection of commercial fertilizers reported in this bulletin was made under the direction of the Honorable Andrew L. Felker, Commissioner of Agriculture. The state inspector, Mr. Eugene D. Sanborn, collected samples of 125 brands of fertilizer materials which were offered for sale by dealers or had been delivered to consumers between March and June, 1927. The general character of the fertilizer materials collected is shown by the following classification:

Complete fertilizer	96
Acid phosphate	5
Nitrate of soda	6
Sulphate of ammonia	2
Ground bone	5
Tankage	3
Sheep manure	7
Poultry manure	1
	125

THE FERTILIZER LAW.

The New Hampshire fertilizer law applies to all fertilizer materials offered for sale, whether mixed materials in the form of complete fertilizers or unmixed materials as acid phosphate, nitrate of soda, ground bone, tankage, etc. Under the provisions of the law every manufacturer or dealer who shall sell or offer for sale any fertilizer

material shall furnish with each lot or package a clearly printed statement certifying the brand name under which it is sold, the name and address of the manufacturer, the number of net pounds the package contains and a chemical analysis stating the minimum percentages of nitrogen of total phosphoric acid, of available phosphoric acid and of water soluble potash. No person shall sell or offer for sale any pulverized leather, hair or wool waste, peat, garbage tankage, or any inert material whatsoever, without an explicit printed statement of the fact conspicuously fixed to every package of such material.

The state official in charge of the administration of the fertilizer law is the Commissioner of Agriculture.

NEW ENGLAND STANDARD NINE

Late in December, 1922, the directors of the New England Agricultural Experiment Stations and the agronomists of the New England State Colleges met in conference with representatives of the fertilizer manufacturers selling in New England and adopted nine grades of fertilizer which in their opinion meet all the fertilizer requirements of New England crops and soils.

The formulas and recommended uses of these nine grades, known as the New England Standard Nine, are as follows:

1. 0-12-6—For late fall seeding of grass and grain and for top-dressing clover and alfalfa.
2. 2-12-4—For late summer and early fall seeding of grass or grain; also for corn with the addition of manure.
3. 3-10-4—For corn, small grains, millet, tomatoes and cabbage on the heavier soils.
4. 3-10-6—For corn, beans and peas on the lighter soils.

5. 4-8-4—For potatoes, beets, carrots, onions and other root crops on the heavier soils.
6. 4-8-6—For potatoes and other root crops on loams.
7. 5-4-5—For tobacco.
8. 5-8-7—For potatoes, celery and other truck crops on light soils.
9. 8-6-6—For top-dressing hay and pasture land.

One object of this conference was to decrease the needlessly large number of different grades on the market. Had the recommendations made been accepted by the consumers of fertilizer materials in New Hampshire, the 96 complete fertilizers analyzed in this year's inspection would have been comprised of 9 grades. Instead, there are 26 grades. This number should be reduced to 24 by omitting two grades, 8-16-8 and 10-16-14, which are double strength of the grades 4-8-4 and 5-8-7. These 24 grades include only 6 of the New England Standard Nine. Three grades of the New England Standard Nine were not found offered for sale.

Not including the double strength grades equivalent to 5-8-7 and 4-8-4, there were 4 grades representing 15 brands containing more potash than the agronomists of New England consider is necessary or profitable to use. No grade in the New England Standard Nine contains more than 7 per cent potash. Three grades, representing 14 brands, were guaranteed to contain 10 per cent potash. One brand was guaranteed to contain 8 per cent potash. In Table 1 are given the grades of complete fertilizers collected, the number of brands found in each grade, the average analysis of each grade and the average retail price per ton.

TABLE I

Formula	Number of brands	Average per cent nitrogen	Average per cent total phosphoric acid	Average per cent available phosphoric acid	Average per cent water soluble potash	Average retail price per ton
1—9—4	3	1.05	9.92	9.02	4.27	$37.33
1—10—3	1	1.08	11.00	10.08	3.38	45.00
2—8—2	3	1.88	8.87	8.06	2.49	27.50
2—8—10	2	1.82	8.72	7.68	10.00	46.00
2—9—3	6	1.78	9.54	8.88	3.12	39.60
2—10—2	5	1.78	10.88	9.99	2.30	38.60
2—10—4	1	1.93	11.67	10.67	3.46	46.00
2—12—4	4	1.84	12.62	12.03	4.23	37.33
3—8—4	11	2.61	8.71	7.97	4.26	35.36
3—8—10	1	2.62	8.67	7.74	10.42	57.00
3—10—4	1	2.52	10.57	10.09	4.15	.....
3—10—6	1	2.58	10.61	9.59	5.77	42.00
3—12—3	1	2.56	12.95	12.01	3.66	41.00
4—6—10	11	3.32	6.75	6.10	9.65	44.55
4—8—4	11	3.39	9.19	8.09	4.10	40.45
4—8—7	2	3.36	8.90	8.28	6.71	48.50
4—16—4	1	3.90	17.93	17.37	4.00	39.40
5—8—7	14	4.06	8.80	8.13	6.92	43.37
5—10—5	1	4.26	11.77	10.00	5.12	36.20
6—6—4	1	4.78	6.86	6.43	4.01	.....
6—8—5	1	5.01	10.33	9.92	5.01	65.00
7—6—5	7	5.59	6.86	6.10	5.07	50.00
8—6—6	1	6.48	7.10	6.62	7.04	50.00
8—16—8	1	6.92	16.50	16.00	8.31	55.40
10—3—8	1	8.58	8.47	5.90	8.00	80.00
10—16—14	2	8.26	16.64	15.76	14.05	67.00

RETAIL PRICE DIFFERENCES

The unusually keen competition in the fertilizer trade during the past year has resulted in considerably lower retail prices for mixed fertilizers than for several years. Table II shows the minimum, maximum and average retail prices per ton of the formulas which are represented in this year's inspection by two or more brands.

TABLE II

Formula	Number of brands	Minimum price per ton	Maximum price per ton	Average price per ton
1—9—4	3	$32.00	$42.00	$37.33
2—8—2	3	27.00	28.00	27.50
2—8—10	2	46.00	46.00	46.00
2—9—3	6	33.00	47.00	39.60
2—10—2	5	29.00	50.00	38.60
2—12—4	4	32.00	45.00	37.33
3—8—4	12	30.00	40.00	35.36
4—6—10	11	36.00	56.00	44.55
4—8—4	11	32.00	58.00	40.45
4—8—7	2	48.00	49.00	48.50
5—8—7	14	36.20	60.00	43.37
7—6—5	7	40.00	65.00	50.00
10—16—14	2	66.00	68.00	67.00

The wide variation between maximum and minimum prices is not due to the difference in freight rates. In many instances the extremes were found in nearby localities. The samples representing the 14 brands of 5-8-7 fertilizer were drawn in the towns of Alton, Conway, Derry, Exeter, Goffstown, Hampton Falls, Lancaster, Littleton, Manchester and Stratham. The retail prices per ton were: $36.20, $37.00, $38.00 (4 brands), $40.00 (2 brands), $42.00, $44.00, $50.00, $51.00, $55.00 and $60.00. The highest price, $60.00 per ton, and nearly the lowest, $37.00 per ton were found in the same town on the same day. They indicate that the purchaser must secure quotations from different sources to be assured that the price he pays is the lowest obtainable.

CONFORMITY TO GUARANTEE

The various brands of fertilizer offered for sale this year have shown much less than the usual consistency in meeting their guarantees, a result perhaps of the price competition in the industry. Sixty-two of the 125 brands analyzed were found to contain less than the guarantee of one or more of the three constituents. The total number of guarantees on the 125 brands was 446, the total number of deficiencies 109. Many of these deficiencies

were comparatively negligible, however, the small deficiency in one constituent being offset in value by overrun in other constituents.

A detailed summary of the deficiencies in the 62 brands which failed to meet their guarantees follows:

	Brands	Total Deficiencies
Nitrogen, available phosphoric acid, total phosphoric acid and potash	1	4
Nitrogen, total phosphoric acid and potash	0	0
Nitrogen, available phosphoric acid and potash	2	6
Available phosphoric acid, total phosphoric acid and potash	4	12
Total phosphoric acid and potash	2	4
Available phosphoric acid and potash	2	4
Nitrogen and potash	4	8
Nitrogen, total phosphoric acid and available phosphoric acid	6	18
Nitrogen and available phosphoric acid	1	2
Nitrogen and total phosphoric acid	2	4
Potash	9	9
Available phosphoric acid and total phosphoric acid	9	18
Total phosphoric acid	10	10
Available phosphoric acid	0	0
Nitrogen	10	10
Total	62	109

NITROGEN DEFICIENCIES

Six brands of nitrate of soda and two brands of sulphate of ammonia were analyzed. All fully met their guarantees except one brand of nitrate of soda which was deficient by 0.63 per cent. One hundred and twelve other

brands were guaranteed to contain nitrogen in amounts varying from 0.82 per cent to 16 per cent. Twenty-five of these failed to meet the guarantee in full. Six were below the guarantee by less than one-tenth per cent. Thirteen were below by more than one-tenth per cent but less than two-tenths per cent. Three were below by more than two-tenths per cent but less than three tenths per cent. Two were below by more than three-tenths per cent but less than four-tenths per cent. One failed to meet the guarantee by eigthy-four hundredths per cent. Since nitrogen is the most costly constituent of mixed fertilizers, any deficiency in this element considerably decreases the commerical value. The six brands of nitrate of soda analyzed this year averaged to contain 15.25 per cent nitrogen and were sold at an average price of $69.75 per ton. The commercial value of the amount of nitrogen represented by the greatest deficiency above was therefore nearly four dollars per ton.

PHOSPHORIC ACID DEFICIENCIES

Five brands of sixteen per cent acid phosphate were analyzed and found to meet the guarantee. One hundred and twelve other brands were guaranteed to contain phosphoric acid. Thirty-four of these were deficient in total phosphoric acid and twenty-five in available phosphoric acid. Thirteen failed to meet the guarantee of total phosphoric acid by less than one-fourth per cent. Fourteen were more than one-fourth per cent below but less than one-half per cent. Five were more than one-half per cent below but less than three-fourths per cent. Two were more than three-fourths per cent below but less than one per cent. Thirteen failed to meet the guarantee in available phosphoric acid by less than one-fourth per cent. Nine were more than one-fourth per cent below but less than one-half per cent. One was more than one-half per cent below

but less than three-fourths per cent. Two were more than three-fourths per cent below but less than one per cent. The five brands of acid phosphate analyzed this year averaged to contain 16.25 per cent available phosphoric acid and sold at an average price of $19.75 per ton. A deficiency of one per cent available phosphoric acid is equivalent, therefore, to about $1.20 per ton.

POTASH DEFICIENCIES

One hundred and fourteen brands were guaranteed to contain potash in amounts varying from 1.30 per cent to sixteen per cent. Twenty-four failed to meet the guarantees. Ten were deficient by less than one-fourth per cent. Seven were below by more than one-fourth per cent but less than one-half per cent. Five were below by more than one-half per cent but less than three-fourths per cent. Two were below more than three-fourths per cent but less than one per cent. A deficiency of one per cent potash represents a decrease in the commercial value of about one dollar per ton.

In the tabulation of the analyses in the following pages deficiencies of two-tenths of one per cent or more are shown in Italics. The names of the manufacturers are arranged alphabetically, and under the manufacturer the different brands are arranged alphabetically or numerically by formula. The nitrogen determinations were made by Mr. Gordon P. Percival, and assistance was rendered in making the phosphoric acid determinations by Mr. Frank S. Schlenker.

	Nitrogen		Phosphoric Acid				Potash	
			Total		Available			
	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
American Agricultural Chemical Co., New York City.								
16% Acid Phosphate	....	....	16.50	16.69	16.00	16.28	....	....
Aroostook Potato Manure	4.11	4.14	8.50	8.64	8.00	*7.79*	7.00	*6.63*
Bowker's All Round Fertilizer	2.47	2.56	8.50	8.40	8.00	8.00	4.00	4.14
Bowker's Market Garden Fertilizer	3.28	3.30	8.50	8.55	8.00	8.01	4.00	4.04
Bowker's Potato and Vegetable Phosphate	1.65	1.79	9.50	*8.93*	9.00	*8.25*	3.00	3.06
Bowker's Square Brand Corn and Grain Fertilizer	1.65	1.78	8.50	*8.14*	8.00	*7.52*	2.00	2.25
Bowker's Stockbridge Early Crop Manure	4.11	4.11	8.50	8.50	8.00	8.00	7.00	6.87
Bowker's Stockbridge Potato and Vegetable Manure	3.29	3.21	6.50	6.71	6.00	6.20	10.00	*9.51*
Bowker's Sure Crop Fertilizer	0.82	1.04	9.50	9.89	9.00	9.28	4.00	4.11
Bradley's Complete Manure for Potatoes and Vegetables	3.29	3.36	8.50	8.50	8.00	8.00	7.00	*6.76*
Bradley's Complete Manure with 10% Potash	3.29	3.32	6.50	6.44	6.00	*5.80*	10.00	*9.46*
Bradley's Corn Phosphate	1.65	1.78	8.50	9.06	8.00	8.22	2.00	2.29
Bradley's Eclipse Fertilizer	0.82	1.00	9.50	10.04	9.00	9.00	4.00	4.28
Bradley's Potato Fertilizer	1.65	1.78	9.50	9.50	9.00	9.00	3.00	3.00
Bradley's XL Super-Phosphate of Lime	2.47	2.52	10.50	10.57	10.00	10.09	4.00	4.15
Complete General Fertilizer	2.47	2.66	8.50	8.63	8.00	8.09	4.00	4.00
Corn Favorite	2.47	2.58	10.50	10.61	10.00	*9.59*	6.00	*5.77*
Double Strength Fertilizer	8.22	8.22	16.50	*16.28*	16.00	*15.13*	14.00	*13.54*
E. Frank Coe's Columbian Corn and Potato Fertilizer	1.65	1.75	9.50	9.92	9.00	9.00	3.00	3.00
E. Frank Coe's Standard Potato Fertilizer	3.29	3.34	6.50	6.76	6.00	6.22	10.00	10.01
Farmer's Friend Fertilizer	1.65	1.71	12.50	12.96	12.00	12.12	4.00	4.00
General Crop Fertilizer	1.65	1.76	9.50	9.68	9.00	9.00	3.00	3.13
Grass and Lawn Top Dressing	4.94	4.78	6.50	6.86	6.00	6.43	4.00	4.01
Hercules Top Dresser	5.76	5.60	6.50	6.76	6.00	*5.55*	5.00	*4.76*
Lister's Corn and Potato Fertilizer	1.65	1.71	9.50	9.50	9.00	9.00	3.00	3.00
Maryland 2-12 4 Fertilizer	1.65	1.70	12.50	12.61	12.00	12.00	4.00	4.04

	Nitrogen		Phosphoric Acid				Potash	
			Total		Available			
	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
American Agricultural Chemical Co.—*Cont.*								
Maryland 4-6-10 Fertilizer	3.29	3.19	6.50	6.59	6.00	6.11	10.00	*9.01*
Maryland 4-8-4 Fertilizer	3.29	3.17	8.50	8.61	8.00	8.09	4.00	4.00
Maryland 5-8-7 Fertilizer	4.11	*3.90*	8.50	8.32	8.00	7.91	7.00	6.89
Maryland 7-6-5 Fertilizer	5.76	5.76	6.50	7.01	6.00	6.12	5.00	5.04
Monarch Fertilizer	3.29	3.20	8.50	8.50	8.00	7.93	4.00	3.85
Nitrate of Soda	15.22	15.30	....	....	....	....	....	....
Patapsco 4-6-10 Fertilizer	3.29	*2.98*	6.50	6.50	6.00	6.00	10.00	10.13
Patapsco 5-8-7 Fertilizer	4.11	4.00	8.50	8.59	8.00	8.01	7.00	*6.66*
Prolific 10% Potash Fertilizer	1.65	1.68	8.50	*8.16*	8.00	*7.11*	10.00	10.00
Pulverized Sheep Manure	1.44	1.54	0.50	1.32	....	....	2.00	3.00
Special Ground Bone	2.06	2.51	22.88	24.62	....	....	....	....
Armour Fertilizer Works, Cartaret, N. J.								
Armour's Big Crop 2-12-4 Fertilizer	1.65	2.29	12.50	12.61	12.00	12.00	4.00	4.84
Big Crop 3-8-4 Fertilizer	2.47	2.49	8.50	8.68	8.00	8.02	4.00	3.81
Big Crop 5-8-7 Fertilizer	4.11	4.17	8.50	9.25	8.00	8.53	7.00	*6.46*
Big Crop Fertilizer 16% Acid Phosphate	....	....	16.50	17.29	16.00	16.51	....	....
Nitrate of Soda	14.81	15.52	....	....	....	....	....	....
Sheep Manure	1.23	1.64	1.00	1.50	....	....	2.00	3.05
Atlantic Packing Co., Boston, Mass.								
Atlantic 4-6-10 Fertilizer	3.28	3.32	7.00	*6.61*	6.00	6.11	10.00	10.39
Atlantic 5-8-7 Fertilizer	4.10	4.03	9.00	*8.51*	8.00	8.00	7.00	7.01
Atlantic Potato Phosphate 3-8-4	2.46	2.71	9.00	*8.59*	8.00	*7.75*	4.00	4.34

BURLINGTON RENDERING CO., Burlington, Vt.								
Burlington 2-8-10 Fertilizer	1.64	1.96	9.00	9.27	8.00	8.25	10.00	10.00
Burlington 2-10-2 Fertilizer	1.64	1.81	11.00	10.77	10.00	10.11	2.00	2.16
Burlington 4-8-7 Fertilizer	3.28	3.35	9.00	9.29	8.00	8.56	7.00	6.66
Burlington 7-6-5 Fertilizer	5.74	6.10	7.00	6.57	6.00	6.03	5.00	5.24
E. D. CHITTENDEN CO., Bridgeport, Conn.								
Chittenden's Complete Grain Fertilizer with 3% Potash	1.65	1.87	9.50	9.69	9.00	9.00	3.00	3.49
Chittenden's Potato Special with 4% Potash	3.29	3.48	8.50	8.69	8.00	8.17	4.00	4.27
Nitrate of Soda	15.00	15.49	....	....	....	....	....	....
CONSOLIDATED RENDERING CO., Boston, Mass.								
Corengo Sheep Manure	1.23	1.92	0.50	1.31	....	....	2.00	2.44
Ground Bone	2.46	2.49	22.90	26.31	....	....	....	....
Ground Tankage 6-30	4.92	5.84	14.00	14.24	....	....	....	....
High Grade Acid Phosphate	....	....	17.00	17.16	16.00	16.28	....	....
Nitrate of Soda	15.22	15.38	....	....	....	....	....	....
Sulphate of Ammonia	20.50	20.68	....	....	....	....	....	....
JOHN C. DOW CO., Boston, Mass.								
Dow's 4-8-4 Fertilizer	3.29	4.57	12.50	13.38	8.00	8.43	4.00	4.22
Dow's Pure Ground Bone	2.00	2.47	24.00	24.81	10.00	11.52	....	....
EASTERN STATES FARMERS' EXCHANGE, Springfield, Mass.								
Eastern States Acid Phosphate	....	....	16.00	17.09	16.00	16.14	....	....
Eastern States 4-16-4 Fertilizer	3.29	3.90	16.50	17.93	16.00	17.37	4.00	4.00
Eastern States 5-8-7 Fertilizer	4.11	3.92	8.25	9.19	8.00	8.21	7.00	7.39
Eastern States 5-10-5 Fertilizer	4.11	4.26	10.50	11.77	10.00	10.00	5.00	5.12
Eastern States 8-6-6 Fertilizer	6.58	6.48	6.25	7.10	6.00	6.62	6.00	7.04
Eastern States 8-16-8 Fertilizer	6.58	6.92	16.50	16.50	16.00	16.00	8.00	8.31
Eastern States 10-16-14 Fertilizer	8.22	8.30	16.50	16.99	16.00	16.39	14.00	14.55
Eastern States Fine Bone Meal	2.46	3.00	23.00	23.70	12.50	12.67	....	....

	Nitrogen		Phosphoric Acid				Potash	
			Total		Available			
	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
Eastern States Ground Animal Tankage	9.05	9.88	4.60	5.71	1.80	2.76	....	....
Eastern States Nitrate of Soda	14.80	*14.17*	....	....	....	....	....	....
Eastern States Sulphate of Ammonia	20.55	20.80	....	....	....	....	....	....
Essex Fertilizer Co., Boston, Mass.								
Essex A1 Super-Phosphate 2-10-2	1.64	1.58	11.00	11.34	10.00	10.07	2.00	2.35
Essex Complete Manure 5-8-7	4.10	4.30	9.00	*8.76*	8.00	8.00	7.00	6.88
Essex Fish Fertilizer 3-8-4	2.46	2.68	9.00	*8.63*	8.00	8.13	4.00	4.14
Essex Market Garden 4-8-4	3.28	3.11	9.00	*8.79*	8.00	*7.76*	4.00	4.00
Essex Peerless Potato Manure 4-6-10	3.28	3.28	7.00	*6.76*	6.00	6.13	10.00	*9.49*
Essex Top Dressing 7-6-5	5.74	*5.46*	7.00	*6.59*	6.00	6.06	5.00	5.16
International Agricultural Corp., Woburn, Mass.								
16% Acid Phosphate	....	....	16.50	16.70	16.00	16.04	....	....
Bone Meal	2.50	2.50	22.00	24.92	....	....	....	....
Crop Grower 5-8-7	4.12	4.17	8.50	8.90	8.00	8.20	7.00	7.11
General Favorite 3-8-4	2.50	2.50	8.50	*8.19*	8.00	7.86	4.00	4.32
Ideal 4-8-4	3.30	3.24	8.50	*8.14*	8.00	*7.73*	4.00	4.08
New England Special 2-12-4	1.65	1.65	12.50	*12.28*	12.00	12.00	4.00	4.02
Top Dresser 7-6-5	5.70	5.75	6.50	6.50	6.00	6.00	5.00	5.10
Kil-Tone Co., Vineland, N. J.								
Plantone	16.00	16.97	....	....	26.00	26.00	16.00	16.00

LOWELL FERTILIZER CO., Boston, Mass.								
Lowell Animal Brand 3-8-4	2.46	2.66	9.00	*8.69*	8.00	8.00	4.00	4.02
Lowell Bone Fertilizer 2-10-2	1.64	1.79	11.00	*10.42*	10.00	10.00	2.00	2.10
Lowell Corn and Vegetable 4-8-4	3.28	3.28	9.00	*8.45*	8.00	8.00	4.00	4.00
Lowell Market Garden Manure 5-8-7	4.10	4.21	9.00	9.49	8.00	8.97	7.00	*6.53*
Lowell Potato Grower 4-6-10	3.28	3.68	7.00	7.16	6.00	6.00	10.00	*9.48*
MAINE FARMERS' EXCHANGE, Portland, Me.								
Produce More 2-8-2	1.65	2.08	8.50	9.41	8.00	8.45	2.00	2.92
Produce More 3-8-4	2.47	2.63	8.50	9.61	8.00	8.25	4.00	5.66
Produce More 3-12-3	2.47	2.56	12.50	12.95	12.00	12.01	3.00	3.66
Produce More 4-6-10	3.30	3.49	6.50	7.78	6.00	6.48	10.00	*9.04*
Produce More 4-8-4 Corn and Potato Fertilizer	3.28	3.15	8.50	9.81	8.00	8.31	4.00	4.62
Produce More 5-8-7	4.10	*3.77*	8.50	8.96	8.00	8.12	7.00	7.07
Produce More 7-6-5	5.76	*4.92*	6.50	8.53	6.00	7.23	5.00	4.96
Produce More Nitrate of Soda	15.00	15.63	....	....	....	....	....	....
MANCHESTER RENDERING CO., Manchester, N. H.								
Manchester Animal Brand Fertilizer 5-8-7	4.10	4.18	9.00	*8.43*	8.00	*7.60*	7.00	6.89
Manchester Special Fertilizer 3-8-4	2.46	2.76	9.00	9.00	8.00	8.00	4.00	4.28
Tankage	5.75	7.35	....	11.50	8.00	8.00	....	....
MERRIMACK FARMERS' EXCHANGE, INC., Concord, N. H.								
Merrimack 2-10-2—For Corn, Grain, Grass and Vegetables	1.64	1.80	11.00	*10.54*	10.00	*9.74*	2.00	2.75
Merrimack 3-8-4—For Corn, Potatoes and Vegetables	2.46	2.34	9.00	*8.59*	8.00	*7.82*	4.00	4.00
Merrimack 4-6-10—For Potatoes, Corn and Market Gardens	3.28	3.42	7.00	6.81	6.00	6.35	10.00	10.00
Merrimack 4-8-4—For Potatoes, Corn and General Crops	3.28	3.36	9.00	9.19	8.00	8.20	4.00	4.00
Merrimack 5-8-7—For Corn, Potatoes and Market Gardens	4.10	4.04	9.00	*8.44*	8.00	7.87	7.00	7.02
Merrimack Top Dressing 7-6-5	5.74	*5.51*	7.00	*6.03*	6.00	*5.69*	5.00	5.24
NATURAL GUANO CO., Aurora, Ill.								
Sheep Head Brand Sheep Manure	1.85	2.06	1.25	1.80	1.00	1.48	2.00	2.00

	Nitrogen		Phosphoric Acid				Potash	
			Total		Available			
	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found	Guaranteed	Found
New England Fertilizer Co., Boston, Mass.								
New England Complete Manure 4-6-10	3.28	3.28	7.00	*6.12*	6.00	*5.51*	10.00	*9.66*
New England Corn Phosphate 2-10-2	1.67	1.90	11.00	11.32	10.00	10.05	2.00	2.13
New England Standard Phosphate 1-9-4	0.82	1.10	10.00	9.83	9.00	8.78	4.00	4.42
New England Super Phosphate 3-8-4	2.46	2.75	9.00	8.84	8.00	7.77	4.00	4.15
Philadelphia Seed Co., Philadelphia, Pa.								
Old English Sheep Manure	1.23	2.25	1.00	1.25	....	....	2.00	2.86
Premier Poultry Manure Co., Chicago, Ill.								
Premier Brand Poultry Manure	4.93	4.74	2.75	2.63	2.50	2.34	1.30	1.57
Premier Sheep Manure Co., Chicago, Ill.								
Premier Brand Pulverized Sheep Manure	1.64	1.93	1.00	0.87	....	....	2.00	2.35
Pulverized Manure Co., Chicago, Ill.								
Wizard Brand Pulverized Sheep Manure	2.00	1.84	....	1.43	1.25	1.17	2.00	2.90

ROGERS AND HUBBARD CO., Portland, Conn.								
Corn and Grain Fertilizer	0.82	1.08	11.00	11.00	10.00	10.08	3.00	3.38
High Potash Fertilizer	2.46	2.62	9.00	8.67	8.00	7.74	10.00	10.42
Oats and Top Dressing	8.22	8.58	8.00	8.47	3.00	5.90	8.00	8.00
Rogers and Hubbard 4-8-4 Fertilizer	3.30	3.48	9.00	9.00	8.00	8.34	4.00	4.00
Rogers and Hubbard 5-8-7 Fertilizer	4.11	3.95	9.00	9.17	8.00	8.63	7.00	7.41
Rogers and Hubbard Potato Fertilizer	1.64	1.93	11.00	11.67	10.00	10.67	4.00	3.46
Soluble Potato Manure	4.93	5.01	10.00	10.33	8.00	9.92	5.00	5.01
VICTORY FERTILIZER CO., Boston, Mass.								
Victory Plant Food	2.47	4.10	10.00	12.47	8.00	9.36	4.00	4.79